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ABSTRACT

This study on Basque language learning is part of a project investigating alternative curriculum designs to promote native language maintenance in the Basque Country of Spain. This study, similar in design to an earlier study, measured the level of Basque and Spanish of second-graders (n=1,196 from 301 classrooms) in three program models (Basque taught as a second language--Model A, Spanish-Basque bilingual--Model B, and instruction primarily in Basque--Model D) in 1988; studied factors influencing the learning of the languages; compared the new data with that of 1983-84; and examined the bilingual model. The study focused on the influence of students' home language (Spanish or Basque) and other social and demographic factors on the educational model. (MSE)

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DPTO. DE EDUCACION, UNIVERSIDADES E INVESTIGACION

E.I.F.E. 3

Influence of factors on the learning of Basque

Study of the models A, B and D in second year Basic General Education

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OUR GRATEFUL THANKS to the students, teachers and fieldworkers who took part in the study.

The Autonomous Community of the Basque Country is one of the seventeen such regional communities of Spain under the 1978 Spanish Constitution. It enjoys a broad range of powers in most spheres of public administration, including education. Basque, spoken by about 25% of the population and linguistically very unlike Spanish, and Spanish itself, spoken by virtually all, are both official languages within the Community (Basque is also a native language in the neighbouring Community of Navarre and, on the other side of the Franco-Spanish border, in the Département des Pyrénées-Atlantiques).

According to official language policy within the Autonomous Community all students up to University level have to carry out their studies in one of the three bilingual teaching models: model A (Spanish-medium teaching; Basque as a subject); model B (both Spanish and Basque are medium and subject) or model D (Basque-medium teaching; Spanish as a subject).

These studies are carried out in one of three types of school (public, private and ikastola), maintained partly or wholly by the Basque Government. Public schools are government-owned, private schools privately owned (usually by religious orders but also by lay groups) and ikastola schools privately owned. The latter were founded in most cases by parents interested in the transmission of Basque as mother tongue (and to a lesser extent as second language) at a time when neither the public nor the private systems made any real provision for such. Most ikastola schools are at present engaged in a process of integration with the public schools in a single new public school system.

FOREWORD

Under the terms of its constitution, the Basque Autonomous Community has two official languages. To ensure that the legal obligations with regard to both Spanish and Basque are observed, Basque authorities have a clear duty to support and encourage the learning of *euskara*, the Basque language, using to that end all the means and measures available to them.

Evidently, the prime objective (ensuring that the inhabitants of the Basque Autonomous Community know Basque) cannot be achieved exclusively through schooling. In the present case, success depends on the exploitation of all the other factors that influence the social organization of linguistic behaviour. In other words, the project of social bilingualism needs the sustained support of society's econotechnical base, its sociocultural configuration, and its employment structure. This support should also be reflected, in general, in the distribution of status and roles in Basque society. All this will undoubtedly require an effort to ensure the conservation and promotion of the use of *euskara* in those environments that constitute the nub of intergenerational language continuity, the family, friends, the neighbourhood, and the entire network of daily relationships and contacts.

Recognition of the importance of these factors and limitations should not, however, lead us to undervalue the potential of the school in the revitalization of the Basque language. The educational system is, and must remain, an essential element in the campaign to guarantee an acceptable level of formal competence in *euskara.* Schools could never achieve the Basquization of the new generations successfully on their own, but achieving the objectives set down with regard to the normalization of the language in the legal framework of the Basque Autonomous Community would be impossible without them.

The Basquization of young people through the educational system has been going on for some ten years now, after the pioneering experience of the ikastola schools, begun around 1960, was first applied to the rest of the Community. The desire to analyze the successes and failures of the process up to the present time would, therefore, seem to be a legitimate and reasonable line of enquiry, and not

merely the fruit of curiosity or a passion for novelty. Teaching is in itself a task that requires, and will continue to require, a considerable outlay in terms of human resources, educational materials and the construction and maintenance of school buildings. Bilingual education, by no means an unusual or recent phenomenon in the sphere of international education, usually requires additional resources and attention. All the more reason, therefore, to analyze and evaluate in some depth the results of our bilingual educational system.

The EIFE programme was begun in 1983 with precisely this objective. The first evaluation, made during the 1983-84 academic year, studied 2nd (7 and 8 year olds) and 5th year (10 and 11 year olds) Basic General Education (BGE) students. A second study, called EIFE 2, designed to measure language competence in Spanish and Basque among 5th year BGE students, was completed three years later. As a kind of epilogue to this evaluation programme, the Department of Education, Universities and Research carried out a third study, EIFE 3, which once again concentrates on 2nd year BGE students. This paper contains the results of the third study. As in previous editions, the study was carried out by Josu Sierra and Ibon Olaziregi, both members of the Basque Service unit. Using a working criterion that, unfortunately, is not as well established here as it might be, they have achieved a particularly high degree of continuity and balance throughout the entire EIFE programme as far as both the evaluating team and the analytical method are concerned. Fidelity to the criterion of uniformity is probably most evident in the presentation of the results. That is not to say that the original approach has remained completely unaltered; as time passed, gaps and deficiencies in the plan became evident, and, where necessary, some quite substantial changes have been made. The innovations in the statistical and computer treatments, in particular, are anything but fortuitous. But in general terms it is fair to say that continuity and internal coherence have been maintained to a remarkable extent. Consequently, the three studies gain by lending themselves to comparison.

Here, too, I am sure that the experienced reader will have no trouble in identifying the results which seem to make up the backbone or core of the conclusions of the EIFE programme as a whole. It is not a question of giving a detailed indication here of the elements involved; that is not what an introduction is for. However, I do feel that three crucial factors deserve special attention:

a) Nowhere has anyone's knowledge of Spanish been impaired, not even among native Basque-speaking students in Model D. It is possible that in isolated cases, (and perhaps this also applies over a wider area than a study of the present type could hope to cover) fluency in Spanish lacks depth and strength to a considerable degree; this is likely to be true es-

pecially of the formal or more learned and written registers, given the age of the students surveyed. But there is no evidence of a particularly marked shortcoming in this respect; not at least of the sort that can be directly attributed to the bilingual teaching model. On the contrary, the really significant shortcomings in language competence are increasingly being seen in the levels of knowledge of Basque. In the first place, it is clear that many students lack the necessary verbal fluency and accuracy in speech and in the second, that their written command of the Basque language is deficient.

b) One of the decisive factors for forecasting the level of competence in Basque when students leave school has little to do with the process of formal in-school education. To put it at its simplest, this factor has to do with the student's first language, the language most used within the family context, (with parents and grandparents, brothers, sisters, cousins and so on) and also, in the case of students over a certain age, which language, Spanish or Basque, their peer group normally uses and which language is most commonly used in the student's neighbourhood. All this is important, certainly; in fact, this is one of a series of factors that serve to remind us not to undervalue the limitations of schooling with regard to halting or reversing language shift in minority language communities like the Basque community.

c) Although the non-academic environment is an important factor in predicting a student's final level of attainment in Basque, the influence of the bilingual teaching models cannot be ignored. Indeed, if the results of our evaluation are to be relied upon, Models B and D are proving to be reasonably effective in the Basquization of Spanish-speaking students. Furthermore, in our view, in comparing each EIFE study with the previous one, these students, and especially those in Model B, can be seen to have made clear progress in the level of language competence in Basque.

The same cannot be said of Model A. It is true, though, that students usually continue studying Basque for several years after undergoing the EIFE measurement (which brings us to the conclusion that good teaching should produce an improvement in the language competence of those students). Neither should we forget that, where oral comprehension of Basque is concerned, EIFE 3 reveals a substantial improvement in Model A over the previous surveys. The results, and the subsequent extrapolations, of the third EIFE survey give a true reflection of the current state of affairs. Unfortunately, they also demonstrate how far the present situation falls short of the state of balanced bilingualism described and prescribed by the existing legisla-

tion. All of which leads us, even those among us who have no great faith in the marvellous tonic effect of such a change, to emphasize the need for new elements that will improve the language aspect of the model.

Whatever the road taken, it is clear that, at the moment, the bilingual educational system is still evolving, and is far more likely to generate theories and problems than to provide solutions. Not the least of EIFE's merits, one feels, is to have provided documented information, with the relevant empirical evidence, about the many variables affecting an education of this kind. It is still too soon to be able to say which elements of the study as a whole will eventually form the basis of its most durable conclusions, and which are less important. Even so, I have every reason to feel that EIFE 3 will come to be seen as something of a landmark in the search for reliable, classifiable data that will lead to formulations about bilingual education and perhaps even general language planning that are clearer, more effective and easier to compare and contrast. Far from being a source of unrest, extending the methods of evaluation used in EIFE to other walks of social life could prove to be a particularly rewarding and beneficial exercise; as far as the common goal of language normalization is concerned, it would at least serve to identify the remaining tasks with greater precision, as well as helping to establish the order of priorities for all the work still to be done.

With these considerations in mind, I would like to recommend the findings of the third EIFE evaluation to the reader. They repay close attention.

MIKEL ZALBIDE
Basque Service

1.INTRODUCTION

This is the third and, for the moment, last EIFE survey to be published. In many ways, the first EIFE study was a pioneer of its kind in the Basque Country. It was a wide-ranging work, covering two different years of BGE students, the three bilingual education models and the four basic skills, to be monitored in both languages. EIFE 2 was restricted to a single year; the survey was directed at the 2nd-year BGE pupils who had taken part in EIFE 1 and who were now in the 5th year of BGE. The other parameters remained unchanged: 3 bilingual teaching models and 2 languages. EIFE 1 provided an overview of bilingual teaching in the Autonomous Community of the Basque Country (ACBC) for the first time. EIFE 2 gave an insight into the development of this educational system and some guidance on future trends.

The third EIFE survey also concentrates on a single educational level: 2nd-year BGE pupils. This time, the bilingual teaching models were more established; Model B students, for example, have been in the same model since beginning Preprimary Schooling. Likewise, the teachers have gained more experience. So it would seem to be a good moment to compare the data obtained until now, at the end of the Initial Cycle of BGE.

Where methodology is concerned, it should be remembered that this study has been carried out with a completely new sample; new specialized analyses were introduced, including those referring to the first language of the students selected, the different types of students, and so on.

Since the first study was produced in 1984, the proportion and context of the bilingual teaching models have changed: Models B and D have grown and staff and resources in Model A, previously the largest, have been reduced.

The following table sets out the way percentages of 2nd-year BGE pupils have evolved, according to Models:

	Percentages per model			
	A	B	D	X*
1983-84 (EIFE 1)	63.7	13.2	18	5.1
1987-88 (EIFE 3)	55.4	21.8	21.4	1.4
1989-90	45.6	29.1	24.2	1

* Without Basque

Besides taking this quantitative growth into consideration, the results and conditioning factors of the models were to be subjected to a careful, in-depth qualitative analysis. This was the additional objective for EIFE 3, introduced as a colophon to the research cycle as a whole.

2. PRESENTATION OF THE STUDY

OBJECTIVES

The study had four main objectives:

a) To measure the level of Basque and Spanish in students in the 2nd year of BGE in Models A, B and D.

b) To study in detail the variables affecting the level of Basque and Spanish in the students selected.

c) To compare the data obtained for the present study (1988) with those of the first EIFE study, EIFE 1, carried out in 1984.

d) To study the selected pupils according to educational model and first language.

SAMPLE

The sample of EIFE 3 is representative of the population of 2nd-year pupils studying BGE in the Autonomous Community of the Basque Country. This sample has two stages.

The stratified sample of classrooms was carried out in the first stage, with regard to the following four criteria: province, sociolinguistic zone, type of school attended and bilingual educational model. The allocation of each stratum was proportional to the number of students. Classrooms were selected with probability proportional to size, and without replacement.

A total of 1196 pupils from 301 classrooms throughout the ACBC were surveyed. Further details are given in the appendix.

FIELDWORK

Between 25 April and 16 May 1988, 17 bilingual fieldworkers gave the language tests and collected data.

DATA COLLECTED

As in previous EIFE studies, three types of information were collected:

a) **Subject's linguistic competence**

To gauge each student's level of language competence, all the boys and girls selected were asked to do the Galbahe E1 Basque test

and the Galbahe C1 Spanish test. These tests only measure oral skills: oral comprehension and expression. 3 subtests are used to check oral comprehension. The simplest sentences are to be found in the first subtest, while the sentences in the third are quite difficult. Two subtests were used to measure oral expression. The first requires command of simple vocabulary and structures and the second uses a simple picture story to measure the child's oral production. The tests in Spanish and Basque are parallel.

b) **Subject's general background**

Other data was collected about each pupil, including personal abilities and skills, such as his or her academic level (in the teacher's opinion) and intelligence quotient (Catell's G factor), languages used in the family environment, languages used with the teacher, with friends, personal attitudes regarding the two languages and so on.

c) **Type of school**

Lastly, a survey was used to compile data about the pupil's school and teacher: this included information on the sociolinguistic zone in which the school is located, the type of school attended, the ownership of the school attended, the classroom model, the percentage of classwork done in Basque, the number of children in each classroom, the teacher's experience and opinions, his or her qualifications in Basque, and so on.

DATA PROCESSING AND TREATMENT

Precoded questionnaires were used so that the results could be processed by computer directly. EJIE, the Computer Company of the Basque Government, was given the job of processing the data and doing the statistical analyses.

Besides obtaining frequencies and several descriptive measurements, different types of variance analyses were carried out using the SPSS X computer package.

The SPAD package was used for multiple correspondence analyses, with special emphasis on its automatic classification modules.

Analyses were also made of items corresponding to the different tests and in some phases of research specific programmes had to be created.

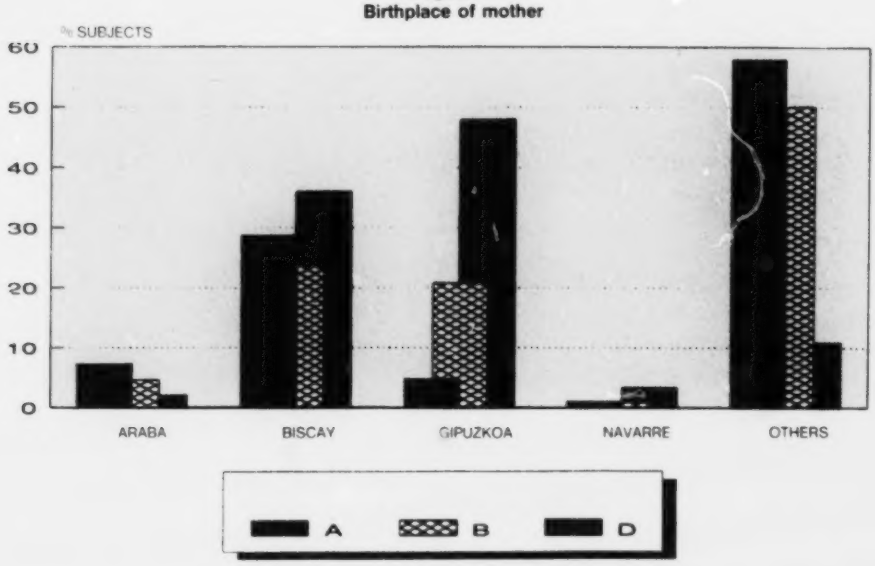
3. DESCRIPTION OF THE VARIABLES

The main subject for analysis was the frequencies of the variables collected in the sociolinguistic survey. A discussion of all the variables collected would be much too long and complex for the present paper, and only the most important are given below.

ORIGIN OF PARENTS

According to the replies given by students, while the majority of the parents of pupils in Model D were born in the Basque Country, approximately half of the parents of children in Model B and more than 50 percent (60 %) of those of students in Model A come from outside the Basque Country. Figure 1 shows the birthplace of the mothers; the birthplace of the fathers is similar.

Figure 1
Birthplace of mother



LANGUAGE USED IN FAMILY ENVIRONMENT

The children were asked two or three questions about the language used in the family environment. According to the replies given, 60 % of Model D pupils always or nearly always speak to their mother in Basque. However, in Model B, and above all in Model A, the majority use Spanish.

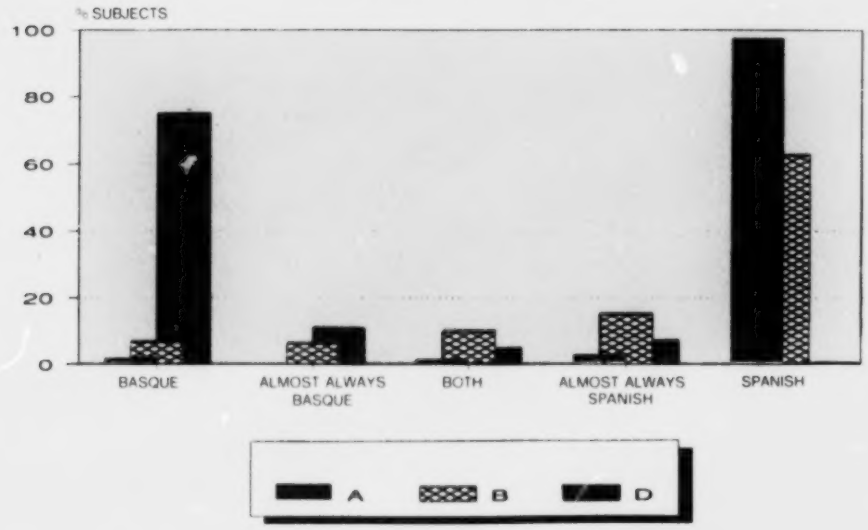
Of all the Model D students surveyed, approximately half answered that both their mother and father spoke Basque. However, the

components of a number of these Basque-speaking marriages (roughly a quarter of them) always, or nearly always, used Spanish when speaking to their partner.

LANGUAGE USED WITH FRIENDS

At this age, children in Model D normally use Basque when they speak to their classmates. Children in Model A, however, speak in Spanish; and of those in Model B, despite the fact that the majority use Spanish, there are some that speak to a lesser or greater extent in Basque.

Figure 2
Language used with schoolmates

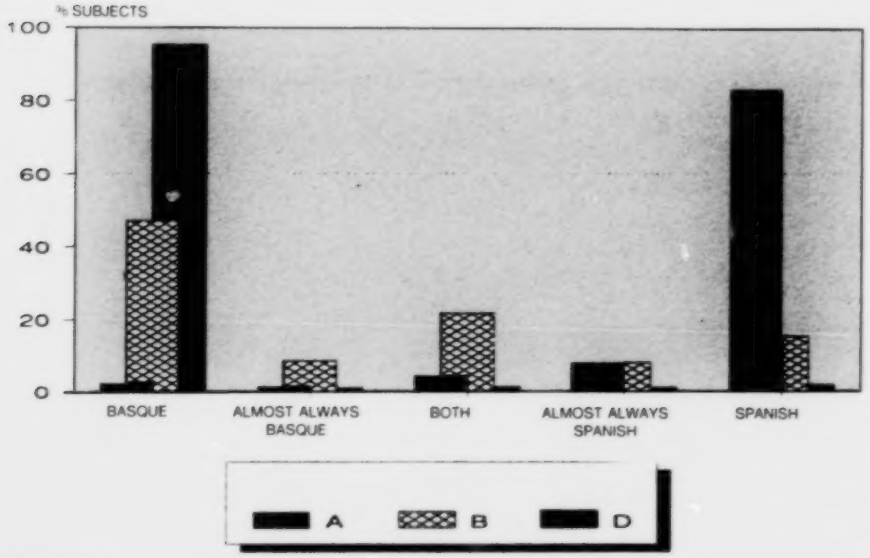


With neighbourhood friends, however, Spanish is stronger; even the percentage of students in Model D who speak in Basque in this context drops to 40 %.

LANGUAGE USED WITH THE TEACHER OUTSIDE THE CLASSROOM

Model D pupils surveyed use Basque to speak to their teacher. Pupils in Model A, however, use Spanish. Model B gives rise to a variety of situations: approximately half always use Basque, and the rest do so in differing proportions. Nevertheless, comparing these data with the corresponding information in EIFE 1, there seems to be a growing tendency to use Basque in the pupil-teacher relationship.

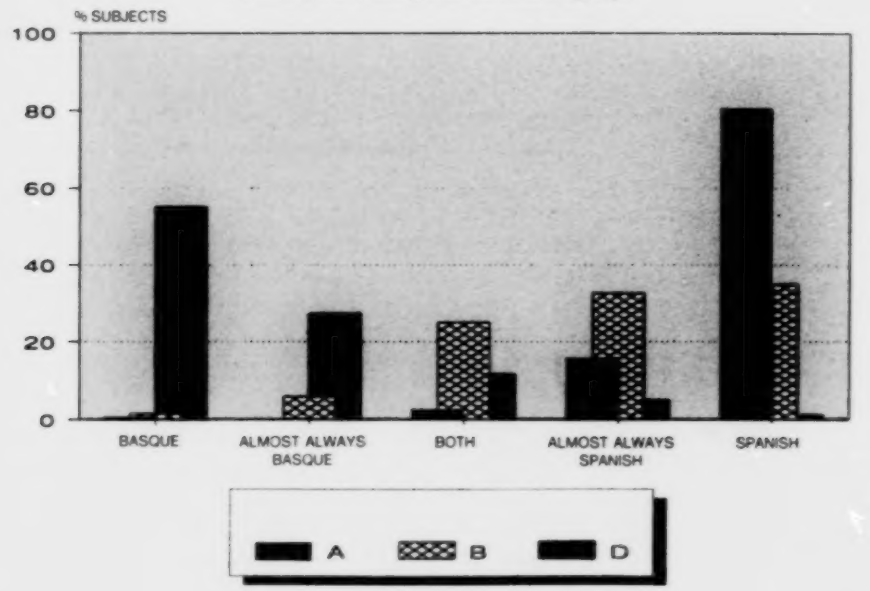
Figure 3
Language used with the teacher outside the classroom



READING

Model A pupils read almost exclusively in Spanish. In Model B, students read much more in Spanish than in Basque, in the 2nd year of BGE at least. The opposite occurs in Model D, where pupils read texts in Basque as a rule.

Figure 4
Percentage of reading done in each language



ATTITUDE TO BASQUE/SPANISH

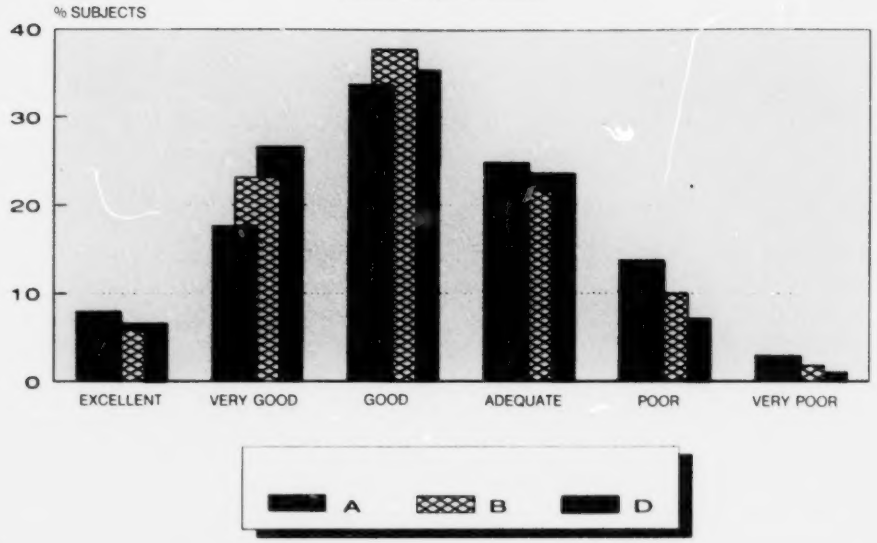
A series of five questions were put to the pupils surveyed, as a means of establishing a scale of attitudes. From their largely positive answers to these questions, we can conclude that almost all of them have a positive or very positive attitude towards Basque.

Attitudes towards Spanish are also positive, above all in Models A and B; in Model D, one notes a certain amount of resistance.

ACADEMIC PERFORMANCE

Although the academic performance of the children surveyed was not directly measured, in each case the child's teacher was asked to give his or her opinion. In general terms, the teachers had a higher opinion of the performance of pupils in Models B and D.

Figure 5
Academic performance



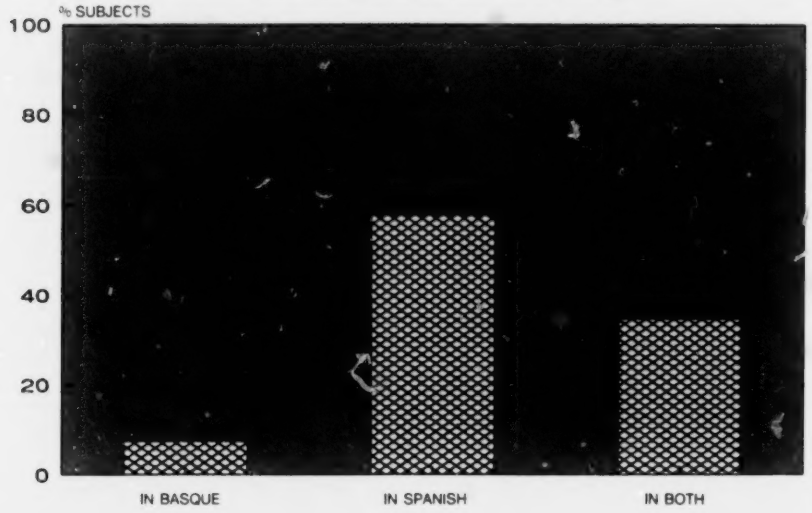
READING AND WRITING IN MODEL B

Normally, most of the process of learning to read and write is carried out in the first level of BGE. In Model A, pupils learn to read and write in Spanish; in Model D, on the other hand, the process involves Basque.

In Model B, most pupils learn to read and write in Spanish although some learn in Basque and others learn in both languages.

In comparison with EIFE 1, the number of children in the second level of BGE learning to read and write in both languages has increased, but a greater percentage still learn these skills exclusively in Spanish.

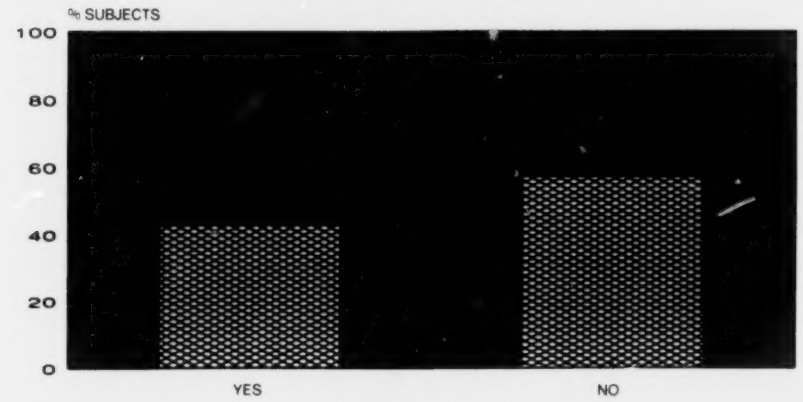
Figure 6
Reading and writing in Model B in 2nd-year BGE



"ONE LANGUAGE/ONE TEACHER" IN MODEL B

In many Model B classrooms, there is one teacher for each language: one teaches in Spanish and the other in Basque. Even so, according to the sample studied, it would seem that most pupils have one teacher only who gives classes in both languages.

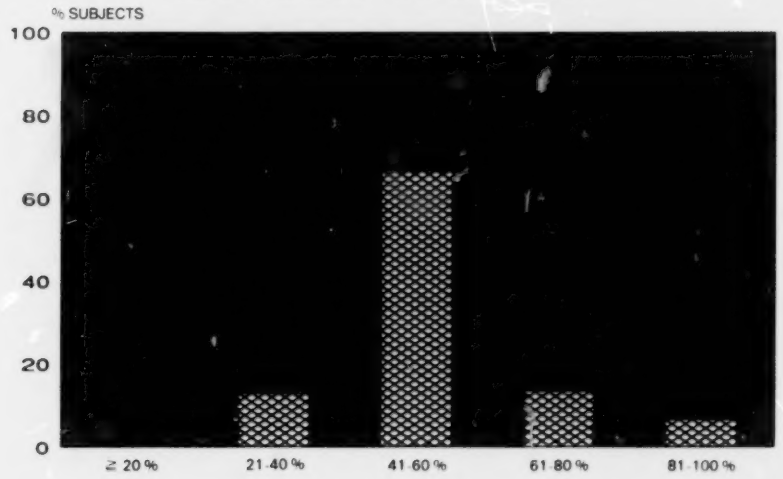
Figure 7
'One language/one teacher' in Model B



PERCENTAGE OF WORK DONE IN BASQUE IN MODEL B

As we have already pointed out, in Model A teaching is done basically in Spanish, while classes in Model D are given in Basque. Teaching in Model B uses both Spanish and Basque. From the results, it would seem that in most Model B classrooms, roughly half the time is given over to work done in Basque. However, there are schools that give a good deal more time to working in Basque, and others that tend to work less in Basque and more in Spanish. Using Spanish in the process of learning to read and write may reduce, in most cases, the time given over to Basque in this model.

Figure 8
Percentage of work done in Basque in Model B



SOCIOLINGUISTIC ZONE

For the purposes of the study, the ACBC was divided into four sociolinguistic zones, according to the percentage of Basque-speakers in each municipal district. The scale begins with the districts included in Zone 1, with the highest concentration of Spanish-speakers, and goes up to those included in Zone 4, the most heavily Basque-speaking:

Zone 1: 0-18 % Basque-speakers

Zone 2: 19-40 % Basque-speakers

Zone 3: 41-70 % Basque-speakers

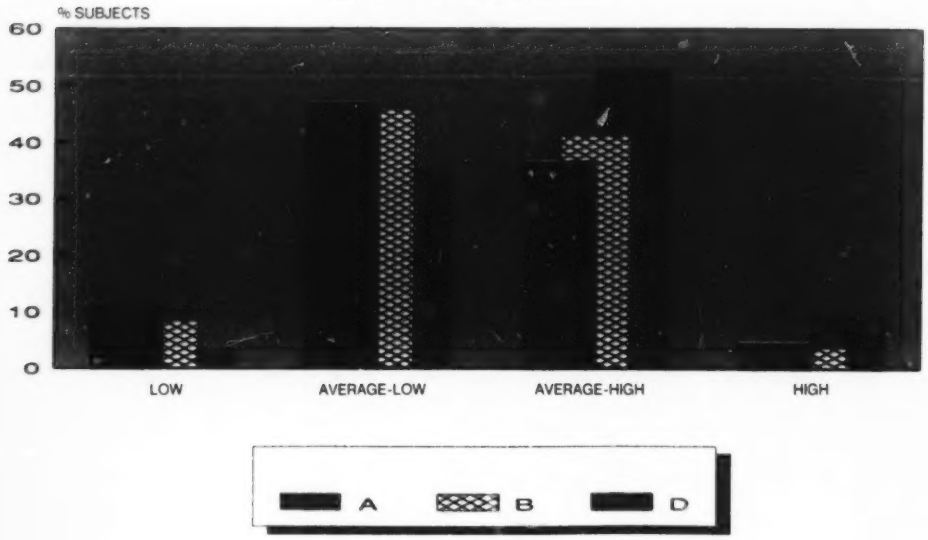
Zone 4: 71-100 % Basque-speakers

Model A is the most prominent in Spanish-speaking zones. Although it is in use in all zones, Model B is to be found mainly in Zones 1 and 2. Lastly, Model D, present in all zones, has taken root most firmly in Zones 2, 3 and 4.

SOCIOCULTURAL LEVEL OF THE FAMILY

Data was obtained in this case by asking the teachers a single question. The answers are therefore based on the opinion of each child's teacher. From the answers, children in Model D tend to come from families with a higher sociocultural level than the rest, and those in Models A and B come from similar types of families.

Figure 9
Sociocultural level of the family



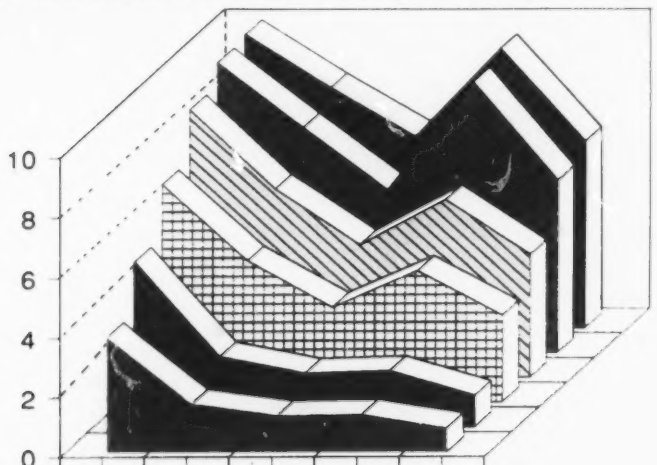
4. SCORES IN LANGUAGE TESTS

The test used to measure the level of Basque (B) obtained by the children surveyed consists of 5 subtests: Oral Comprehension 1, 2 and 3 and Oral Expression 1 and 2.

The first four subtests are marked out of ten. Oral Expression 2 is marked out of 60, although for practical reasons the scale was converted to 0-10 in Figure 10.

The chart shows the average marks obtained, model by model and subtest by subtest, by the children surveyed in EIFE 1 and EIFE 3. The average figures are shown in table form immediately below the chart.

Figure 10
Average scores obtained in the Basque tests, in EIFE 1 and EIFE 3



	OC1	OC2	OC3	OE1	OE2
D-EIFE 3	9.82	8.03	6.38	9.34	6.22
D-EIFE 1	9.7	7.52	5.42	9.05	5.75
B-EIFE 3	8.96	6.29	4.43	5.93	4.11
B-EIFE 1	7.27	4.73	3.18	4.39	2.91
A-EIFE 3	5.53	2.37	1.81	1.89	1.06
A-EIFE 1	3.86	1.63	1.23	1.27	0.82

As can be seen from these results, there are big differences between models: from the highest average marks in Model D to the lowest average marks in Model A, the variation is evident. Marks in EIFE 3 are, in all three models, higher than those achieved by children surveyed in EIFE 1.

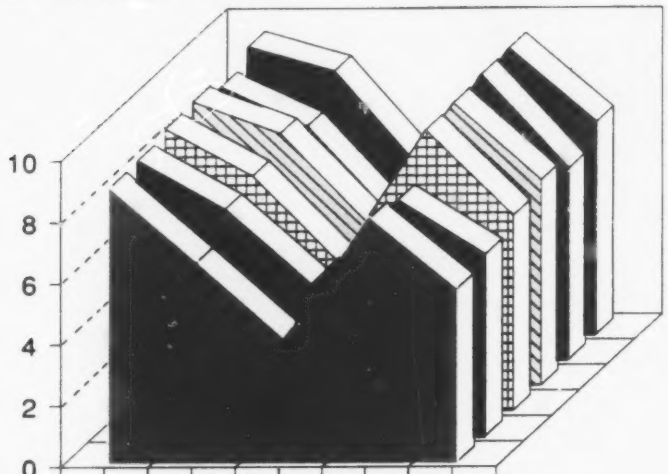
The most important result is undoubtedly the progress made in Model B. From EIFE 1 to EIFE 3, the averages increased by a point or

a point and a half in all the tests, both in comprehension and expression. This would seem to indicate that Model B is stronger and more consolidated than it was when it began.

Increases in marks obtained by pupils in Models A and D are not as significant. However, mention should be made of the better averages achieved by Model A students in the easiest comprehension test, Oral Comprehension 1(B). There appears to have been some improvement in the understanding of vocabulary and simple syntactical structures. This test is the one that best adapts to the level of Basque among Model A pupils.

Things are rather different where the Spanish (S) tests are concerned. Differences between models are generally fairly small. Some averages in Model D are lower than those of the other two models. However, there has been a general improvement, as these marks are better than those in EIFE 1, particularly in the oral comprehension tests 2 and 3. It must be remembered that the Spanish subtests are parallel to the Basque tests: Oral Comprehension 1, 2 and 3 and Oral Expression 1 and 2. The average marks obtained in EIFE 1 and EIFE 3 are given in the chart and the table below:

Figure 11
Average scores obtained in the Spanish tests, in EIFE 1 and EIFE 3



	OC1	OC2	OC3	OE1	OE2
A-EIFE3	9.43	8.64	5.42	9.35	6.96
A-EIFE1	8.94	7.66	4.66	9.33	6.27
B-EIFE3	9.28	8.25	5.37	9.23	6.72
B-EIFE1	9.23	7.69	4.87	9.18	6.39
D-EIFE3	9.03	7.44	4.98	7.73	5.95
D-EIFE1	8.99	6.55	4.06	7.99	5.68

Comparing the average scores in Basque and Spanish, it is clear that the most difficult Oral Comprehension test is the third, and the most difficult Oral Expression test is the second.

It is also evident that, both in Basque and Spanish, differences between models are accentuated in aspects of oral expression.

5. OVERALL SCORES

Starting from the marks in the five Basque subtests, a single score has been worked out for each pupil. This was also done for the results of the Spanish tests, using the same procedure. The formula used to obtain the overall score is based on the variability coefficients of the subtests. These coefficients are different for each language and for each of the different bilingual teaching models, and a decision was taken to use the variability coefficients of the Basque tests in Model B, with the occasional minor correction, as reference.

$$\text{OVERALL SCORE} =$$

$$1.44 * OC1 + 2.78 * OC2 + 4.38 * OC3 + 3.56 * OE1 + 0.6 * OE2$$

The Spanish language tests were weighted with the same indices.

This formula was used to calculate the overall score for each child. The averages and deviations in the marks in Basque in each model were as follows:

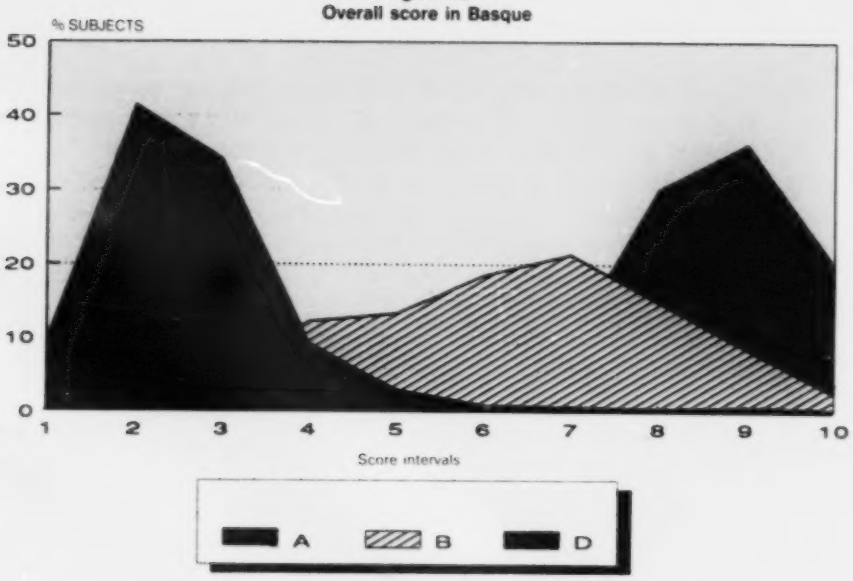
BASQUE

	$\bar{X}$	S
A	32.23	17.27
B	85.77	27.76
D	120.89	15.53

In figure 9, scores are shown on a scale of 10. From this it can be seen that the three models spread out differently: Model A intervals are in the lower mark bracket, those of Model B in the average mark bracket and those of D in the highest bracket. Model B shows the greatest degree of diversity.

Marks in Spanish, on the other hand, come in a high zone for most of the children surveyed. The marks are distributed in a similar way in Models A and B. Model D is a little further behind.

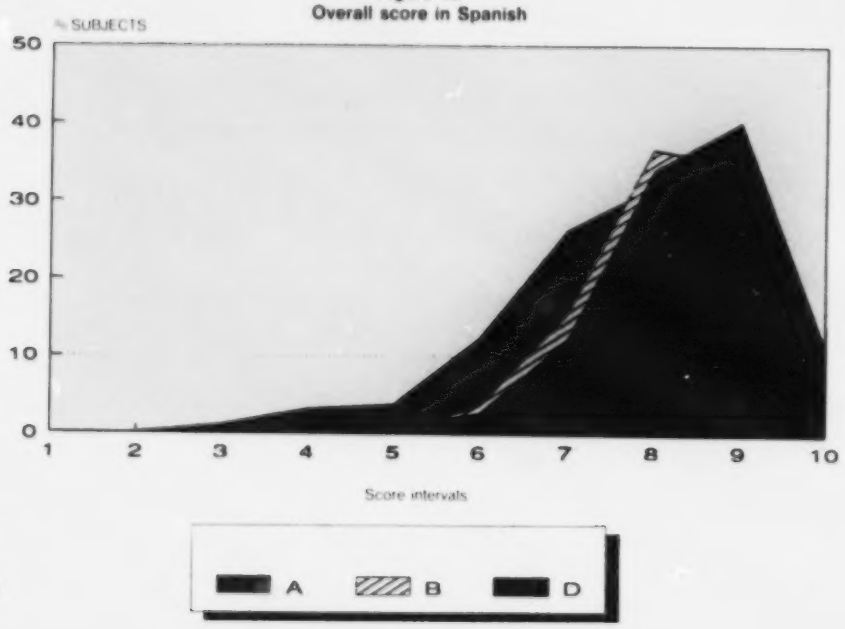
Figure 12
Overall score in Basque



SPANISH

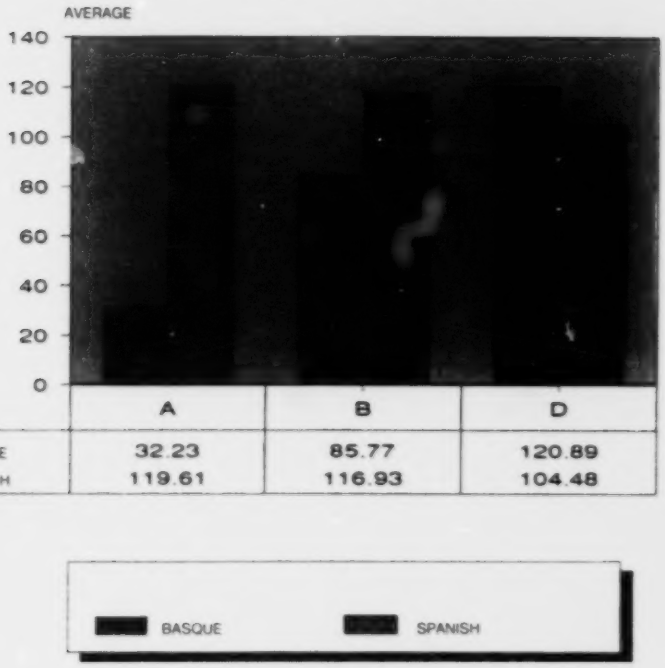
	$\bar{X}$	S
A	119.61	13.69
B	116.93	15.59
D	104.48	20.29

Figure 13
Overall score in Spanish



If the average scores for the two languages are compared, Model D can be seen to be the most balanced, as pupils achieve good marks in both languages, with Basque having a slight advantage. Model B shows a good level of Spanish, and although still some way off the Spanish level, the level of Basque achieved is acceptable. The result in Model A is unbalanced: although pupils generally obtain a good result in the language used in the family environment, Spanish, the model does not show a good average in the second language.

Figure 14
Comparison of average scores in the two languages



	A	B	D
BASQUE	32.23	85.77	120.89
SPANISH	119.61	116.93	104.48

6. ADEQUACY OF LANGUAGE TESTS

The language tests are made up of several subtests, which is why the reliability of the overall test was calculated using the "two halves" method; in other words, the internal coherence of the test was checked. This reliability index was calculated separately for each bilingual teaching model.

	Basque test	Spanish test
A	.73	.65
B	.89	.7
D	.72	.82

The validity of the tests was checked by correlating each pupil's results with the teacher's estimate of his or her level, both in Basque and Spanish.

	Basque test	Spanish test
A	.36	.38
B	.56	.31
D	.46	.50

In general, the levels of reliability and validity have proved adequate.

7. VARIANCE ANALYSIS

One-way analysis

The most important variables to define are the level of Basque and the level of Spanish among the children surveyed. Almost all the rest of the variables have been collected to help explain these two.

In the first place, one-way analysis of variance was used to study the differences in marks between pupils. This analysis makes it possible to determine the relationship between this dependent variable and each of the explanatory or independent variables. This in turn enabled the analysts to select the independent variables that have proved to have most links with marks in Basque in each of the bilingual teaching models. Variables shown to have little significant connection were also detected and ruled out for further analysis.

The same process was used with the marks in Spanish; in each model, the variables most affecting the level of competence in Spanish were identified.

As a result of this process, six lists were drawn up of variables corresponding to the two languages in each of the three bilingual teaching models. Each of the lists brings several variables together, some of which are very similar in type. The most significant variables were selected and the weakest were eliminated, together with those that offered superfluous information. Lastly, multivariate analysis of variance was carried out, using the selected variables as the basis of the analysis.

Multivariate analysis

As indicated above, the analysis concentrated on the variables that best explain the level of competence achieved in the language by the children surveyed. In this way, their joint and individual influence on the variability of this phenomenon could be gauged. The analysis was repeated in each model and for both languages. A summary of the results is given below.

Factors influencing competence in Basque in Model A

For the analysis of Model A only the Spanish-speaking pupils were selected: that is, for the purpose of statistical analysis, pupils with prior knowledge of Basque were not included on account of their family background, since the variables involved in these cases are very different from those affecting the rest of the pupils in Model A.

There are no great differences in the level of Basque among the Spanish-speaking children in this model: almost all of them have a low level. The previously selected variables explain 20.13 % of variance, with some fairly low F statistics with poor significance levels that even exceed the limit of 0.05.

The following are the most important variables:

1) *Hours of Basque a week* (F=2.59) (P=0.053)

The number of hours of Basque that these pupils receive in a week is a variable that affects their level of knowledge of the language. There is a scale that goes from those pupils that have 2 hours instruction a week to those that receive 5 hours a week. It is worth remembering that most children educated in this model receive 3 or at most 4 hours a week of Basque in the 2nd year of BGE.

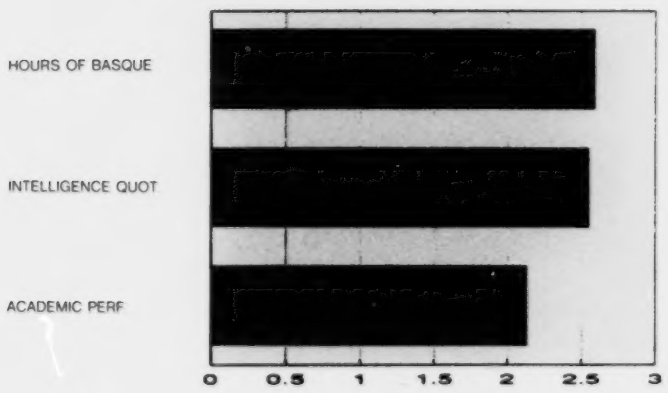
2) *Intelligence quotient* (F=2.55) (P=0.056)

The intelligence quotient also has some influence. Children with high intelligence quotients achieve better marks in Basque. On the other hand, children with low marks in the intelligence test usually fare less well in Basque.

3) *Academic performance* (F=2.13) (P=0.061)

The teacher's assessment of each child's academic performance is related to the score that the pupil achieves in Basque. The two variables show a parallel development. Good performance is correlated to high marks and bad performance to low marks.

Figure 15
Variables influencing the level of Basque. Model A



Factors influencing competence in Basque in Model B

Variables affecting the level of Basque in Model B are mostly different to those with influence in Model A; the two models are also different, of course. In the analysis for this group, the independent variables explained 45.55 % of the total variance.

1) *Percentage of school work done in Basque* (F=9.58) (P=0.000)

The time given over to each language in Model B varies from one school to another. In most cases, half the school day is given over to Basque (see page 24). The analysis demonstrates that those pupils who receive more than half their timetable hours in Basque achieve a higher level of Basque than the rest.

2) *Language used by child with mother* (F=9.09) (P=0.000)

This variable really reflects the language used in the family environment. Few Model B pupils speak Basque with their families, but those who do have a considerable advantage over the others.

3) *Language used with teacher outside the classroom* (F=5.78) (P=0.000)

Using Basque in the normal relationship between teacher and pupils is extremely useful, as it ensures a greater knowledge of the language.

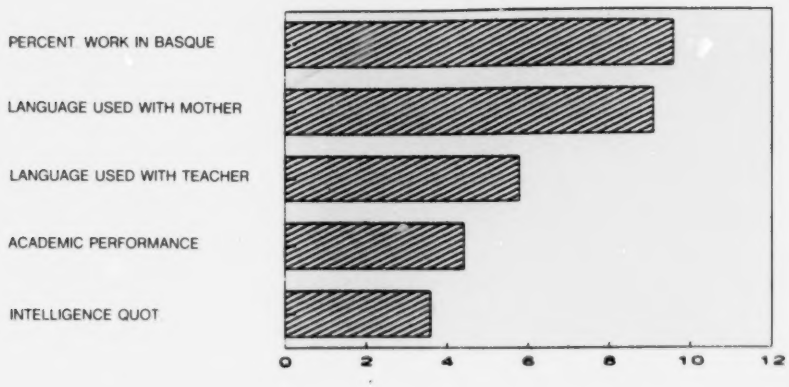
4) *Academic performance* (F=4.41) (P=0.001)

Children considered to perform well at school achieve good marks in Basque.

5) *Intelligence quotient* (F=3.59) (P=0.007)

The intelligence quotient also affects the phenomenon studied. Pupils with low marks in the intelligence test are much more likely to score lower marks in the Basque test than the rest of the pupils.

Figure 16
Variables influencing the level of Basque. Model B



Factors influencing competence in Basque in Model D

Many of the children in Model D use Basque at home with the family. A number of pupils come from Spanish-speaking homes, but they are given schooling in Basque from a very early age. The analysis of the level of Basque in this model explains 34.56 % of the variance. The most significant variables were the following:

1) *Basque-speaking mother* (F=17.01) (P=0.000)

This variable, selected as being representative of the language used in the family environment, explains the substantial differences observed in the children's level of competence in Basque. There is a considerable gap between those pupils whose mothers know Basque and those whose mothers do not know Basque. In any case, it should not be forgotten that most of the pupils in this model come from Basque-speaking families.

2) *Academic performance* (F=9.06) (P=0.000)

Academic performance and marks in Basque are closely related. Generally speaking, the better the pupil's academic performance, the better the level of Basque.

3) *Intelligence quotient* (F=6.24) (P=0.000)

Scores obtained in the intelligence test are significantly linked to the level of Basque. The higher quotients correspond to a high level in Basque, and vice-versa.

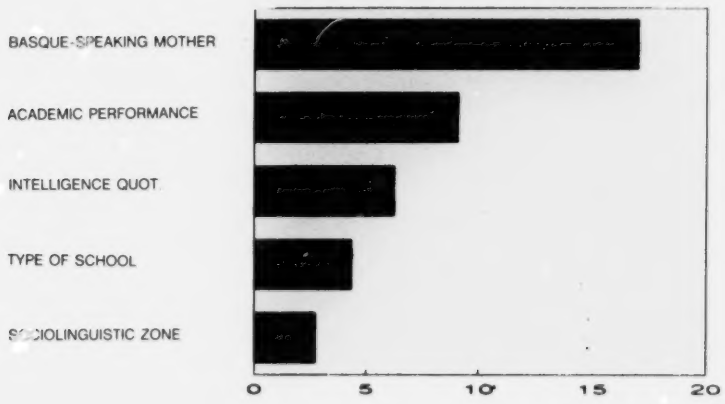
4) *Type of school* (F=4.34) (P=0.014)

In Model D, pupils studying at the ikastola schools achieve higher marks in Basque, followed by students attending state schools. Few pupils study at private schools, and their marks are lower.

4) *Sociolinguistic zone* (F=2.74) (P=0.043)

To a certain extent, the level of knowledge of Basque varies according to which sociolinguistic zone the pupils live in. In the most heavily Spanish-speaking zone, marks are lower, while in the most heavily Basque-speaking zone marks are slightly higher. In the intermediate zones, however, it is difficult to distinguish any clear tendencies.

Figure 17
Variables influencing the level of Basque. Model D



Factors influencing Spanish

The study of the level of competence in Spanish brought to light a most unusual feature that differentiates the language from Basque: almost all the children, in all models, have an acceptable level in Spanish. In other words, there are few analogies to be drawn between the phenomenon under investigation and the situation of Basque in Models A or B. In these cases, the educational and sociolinguistic factors are decisive, whereas the different levels of knowledge of Spanish in the three models are due more to personal factors, as is the case with Basque in Model D.

The factors that most explain the level of knowledge of Spanish in Model A are the *intelligence quotient* (F=11.29) (P=0.000), *academ-*

ic performance (F=9.57) (P=0.000) and the *type of school* (F=9.01) (P=0.003). With regard to the last factor, private schools obtain better scores than the state schools. The analysis explains 34.83 % of the variance.

In Model B, besides *academic performance* (F=6.52) (P=0.000) and the *intelligence quotient* (F=4.72) (P=0.001), there are other important factors like *the language used with friends out of school* (F=4.29) (P=0.002) and the *sociolinguistic zone* (F=2.63) (P=0.049), variables that would seem to indicate that pupils living in a very Basque-speaking environment have a slightly lower level of Spanish than those living in Spanish-speaking zones. The analysis explains 24.73 % of the variance.

Lastly, in Model D the most influential factor in the level of knowledge of Spanish is *academic performance* (F=6.45) (P=0.000). This is followed by the *language used with friends out of school* (F=5.41) (P=0.000): those who always speak in Basque obtain a rather lower mark than those who always use Spanish. Next in importance is the *intelligence quotient* (F=4.05) (P=0.003), the *language used with the mother* (F=4.90) (P=0.008) and the *language they watch television in* (F=3.55) (P=0.007). The analysis explains 40.43 % of the variance.

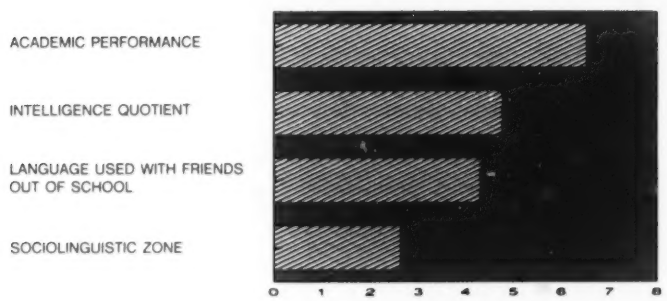
It is clear that knowledge of Spanish is closely related to the personal aptitudes of each pupil. This is not to say that the school has no influence at all. Where Spanish is concerned, the school's function is to perfect knowledge of the language, since almost all the pupils know it already. However, the different levels of knowledge can be better explained with reference to personal skills rather than to the academic variables noted in the course of the study.

The situation of Basque, however, is quite different. The language's weak social position means that, for many children, school is the major medium for learning Basque. This phenomenon is reflected in the analyses of Models A and B. The prevalence of academic factors means, essentially, that some types of schools or classrooms achieve better results than others; and, consequently, that some of the keys to more effective Basquization lie in the introduction of methodological and academic improvements.

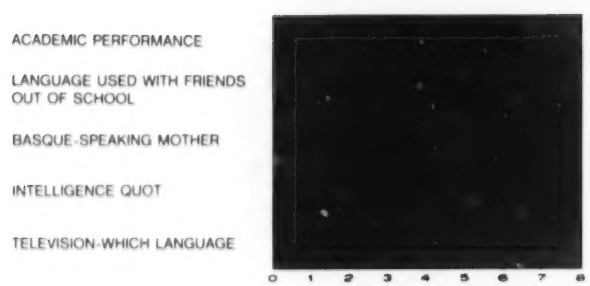
Figure 18
Variables influencing the level of Spanish

MODEL A

MODEL B


ACADEMIC PERFORMANCE
INTELLIGENCE QUOTIENT
LANGUAGE USED WITH FRIENDS OUT OF SCHOOL
SOCIOLINGUISTIC ZONE
0 1 2 3 4 5 6 7 8

MODEL D


ACADEMIC PERFORMANCE
LANGUAGE USED WITH FRIENDS OUT OF SCHOOL
BASQUE-SPEAKING MOTHER
INTELLIGENCE QUOT
TELEVISION-WHICH LANGUAGE
0 1 2 3 4 5 6 7 8

8. MULTIPLE CORRESPONDENCE ANALYSIS

Multiple correspondence analysis was done in the three bilingual models. One of the most interesting results of this analysis is the classification of pupils according to their characteristics, particularly in Model B. Analysis of Models A and D did not provide any especially interesting data, owing to their greater homogeneity, and so are not reproduced here.

The analysis of Model B distinguishes three groups of students.

The first group is the largest, including 65 % of the children surveyed. Pupils in this group are Spanish-speaking, their parents come mostly from outside the Basque Country, and they use Spanish when talking with their classmates, as they do, in some cases, with their teacher outside the classroom. Roughly half of their schoolwork is done in Basque. Mathematics are taught in Spanish, although most are given classes in social sciences in Basque. Some classes study social sciences in both languages.

Most of these pupils study at state schools, but some are to be found at private and ikastola schools. This group could be fairly described as the most common in Model B.

The second group accounts for 29 % of the sample. Pupils in this group use Basque to speak to the teacher, both inside and outside the classroom, and some also use it with their classmates.

Most schoolwork is done in Basque. Pupils in this group are taught mathematics in Basque or in both languages, as well as social sciences. The parents of these children are also mostly Spanish-speaking and have a similar background to those of the first group: most of them come from other Autonomous Communities. These children have a very positive attitude to Basque. Most study at state schools, and some at ikastola schools. Their teachers talk to each other in Basque, which means that staff meetings are held in Basque. This type of model B could best be called "intensive".

Lastly, there is a fairly small **third group** (5.3 % of the children surveyed). Almost all of these children have Basque-speaking parents; they are from Gipuzkoa and use Basque with their parents and brothers and sisters. They also use Basque with the teacher and, to a great extent, with their classmates. Most study at private schools. The group is a Basque-speaking enclave within Model B.

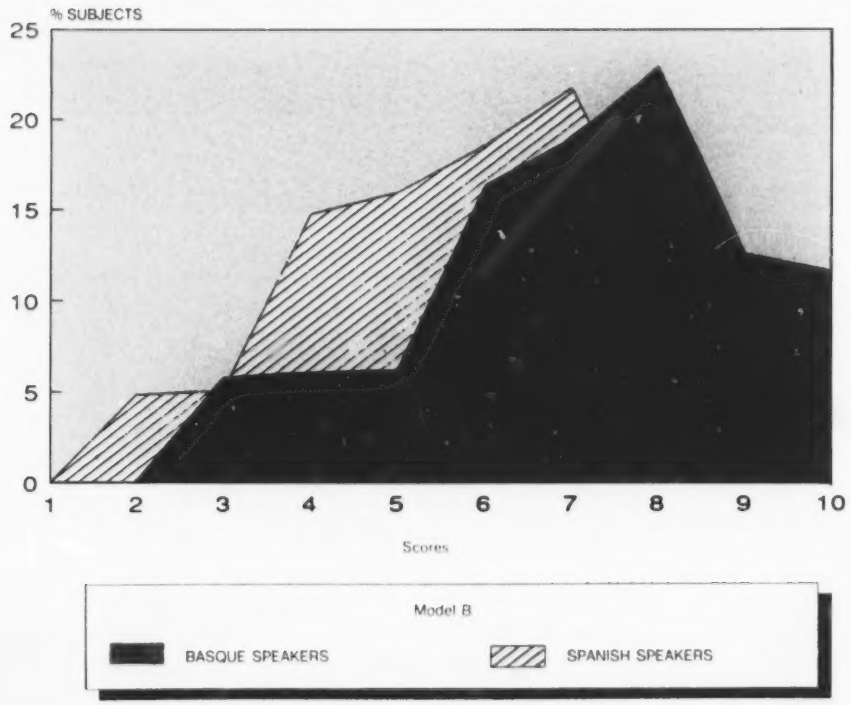
The different characteristics of each group are reflected in the marks in Basque: the third, or "Basque-speaking" group achieves the highest marks, the second or "B-intensive" group has less high marks, and the first, or "B-common" group gets comparatively low marks.

9. ANALYSIS BASED ON CHILD'S FIRST LANGUAGE

There is no clear correspondence between our bilingual teaching models and the language used in the home. Although Models A and B were designed in principle for children whose first language is Spanish, a certain number of students who use Basque in the home have also enrolled in each of these groups, especially in Model B. In the present study, these Basque-speaking children account for 17 % of the Model B sample. On the other hand, Model D, which first began in the *ikastola* schools and was designed for children whose first language was Basque, soon had an appreciable enrolment of Spanish-speaking children. Thus, it appears that this model is being used as a means for learning a second language, in this case Basque. In certain Spanish-speaking zones, the percentage of native Spanish-speakers in Model D classrooms occasionally reaches as high as 100 %. In the sample used in the present study, these children account for 24 % of Model D students.

It is also worth noting that the division of children into Basque speakers and Spanish speakers may be an oversimplification. A first reason is that practically all so-called Basque-speaking children are in fact bilingual. Secondly, Spanish-speaking children are now exposed to much more Basque, and at a much earlier age, than before.

Figure 19
Comparison of Model B scores in Basque

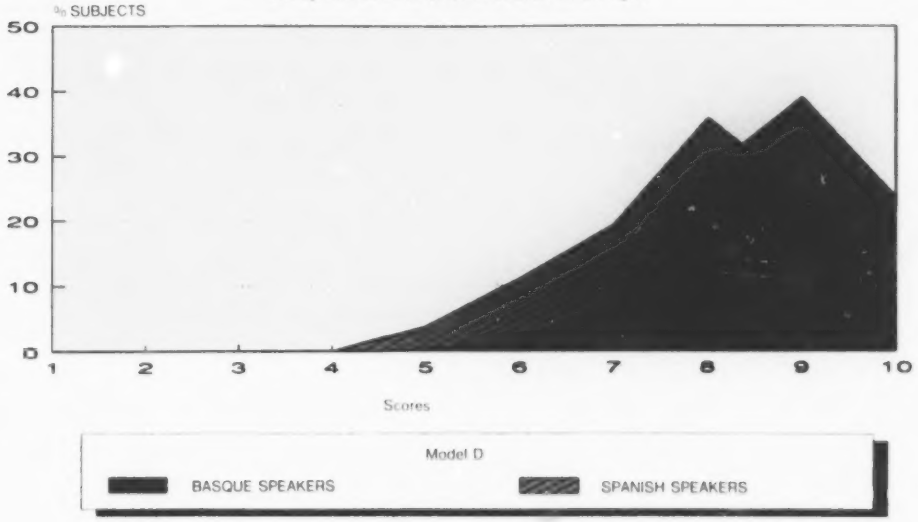


Thus, the distinction made in this study between Basque- and Spanish-speaking students is based largely on practical considerations. A child is considered to be Basque speaking if he communicates in Basque (almost always or as often as in Spanish) with at least one of his parents. All other children have been classified as Spanish speakers.

Having used these criteria to classify the subjects according to first language, a comparison of Model B students shows that the Basque speakers average higher marks in Basque than do the Spanish speakers (figure 19). There are, however, cases of Basque speakers in this group who score very low.

In Model D, the pattern differs somewhat. In this case, both Basque and Spanish speakers obtain high marks, but the former continue to have the advantage (figure 20).

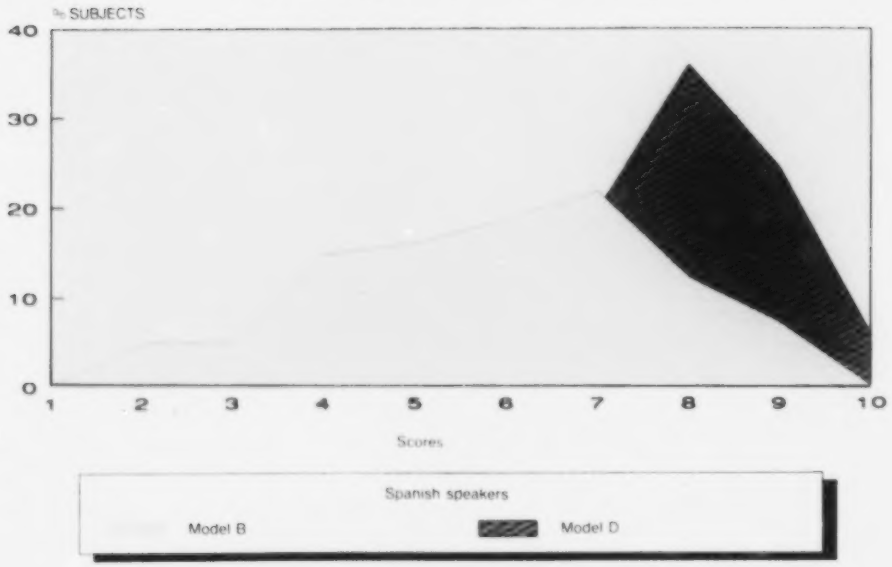
Figure 20
Comparison of Model D scores in Basque



A comparison of the marks obtained by Basque speakers enrolled in Models B and D shows clearly that the students in Model D reach a higher level in Basque than do the B students. However, this may be because they not only study entirely in Basque, but they are also more truly native speakers of Basque and use the language more in the home.

If we turn now to a comparison of the Spanish speakers in the two models, we find much the same sort of situation. Model D students have achieved a higher level in Basque than their counterparts in Model B, since the former model teaches the second language much more intensively (figure 21).

Figure 21
Comparison of Spanish-speaker scores in Basque



Spanish speakers enrolled in model D achieve higher marks than those in Model B on all subtests, especially in oral expression.

The higher scores of Spanish speakers enrolled in Model D should not come as a surprise. After all, they have far more contact with Basque speakers and situations, and no doubt receive greater motivation at home as far as learning Basque is concerned. In addition, it is necessary to stress the input derived from studying entirely in Basque, which undoubtedly contributes to a higher degree of competence in this language.

Looking now at the scores achieved by the different groups in Spanish, we find that in both models, children whose first language is Spanish have a slight advantage over those whose mother tongue is Basque (figures 22 and 23).

Figure 22
Comparison of Model B scores in Spanish

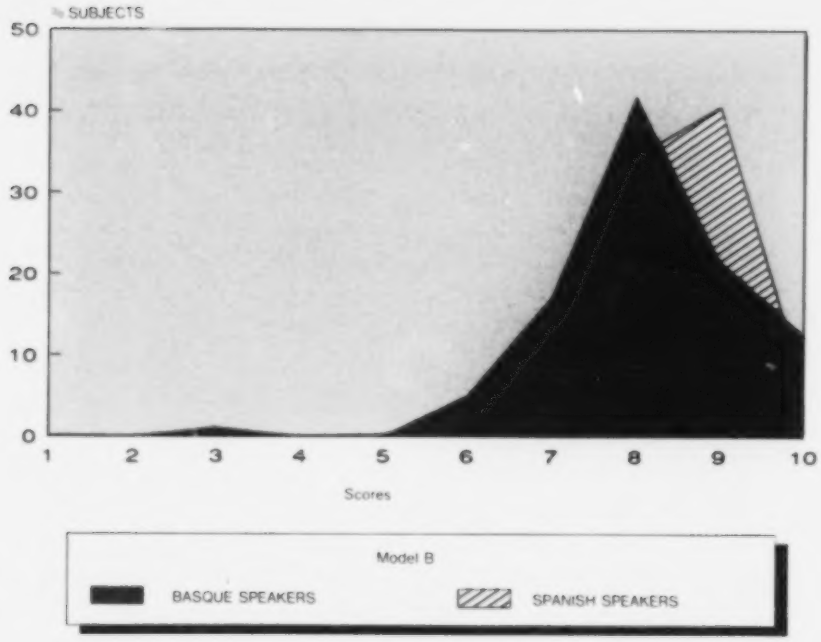
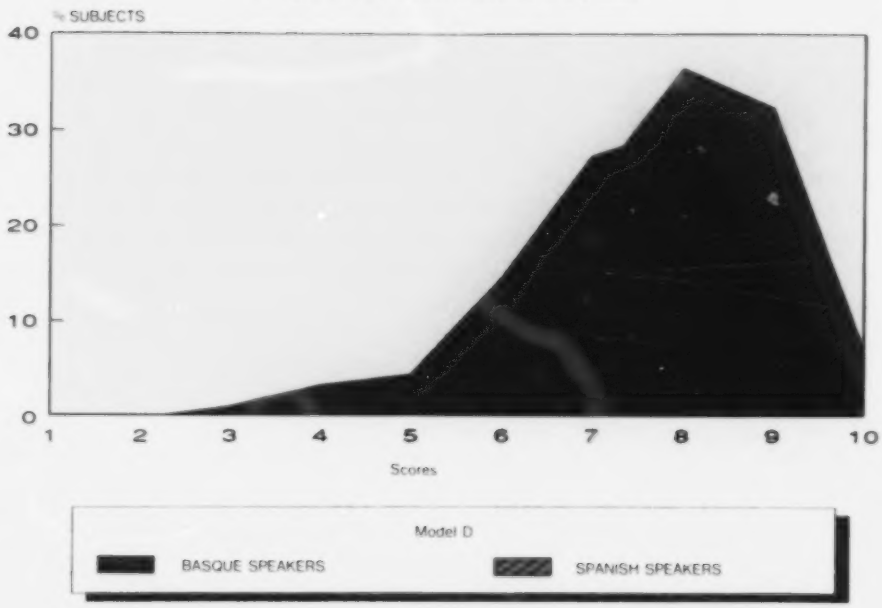
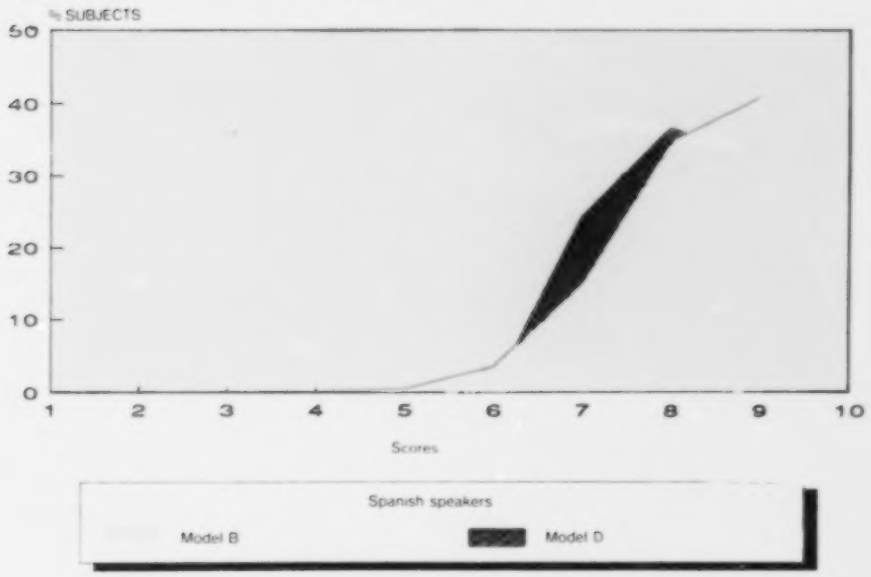


Figure 23
Comparison of Model D scores in Spanish



Moreover, both Model B and D Spanish speakers achieve similar levels in Spanish (figure 24), and compare quite favourably with students enrolled in Model A (see figure 13). Thus, the students show no impairment of competence in their first language, despite the fact that they are taught wholly or partially in a second language.

Figure 24
Comparison of Spanish-speaker scores in Spanish



These results corroborate the well-verified claim that bilingual education does not hinder or impair the child's developing competence in his mother tongue, as long as this language enjoys dominant social status. If, however, the child's first language has minority status, education in a second language may adversely affect the child's competence in his mother tongue (Lambert 1974; Skutnabb-Kangas-Toukomaa, 1976; J. Cummins 1981).

10. OVERALL VIEW

1. Evolution of bilingual teaching models

The EIFE 1 study was completed in 1984. EIFE 3 has evaluated the linguistic competence of children enrolled in 2nd year of BGE in 1988. The differences in the findings of the two studies as regards language performance under the different bilingual models can be summarised as follows:

Regarding levels achieved in Basque, the students surveyed in EIFE 3 scored higher in all three models, but the rise was much more dramatic in Model B. In this model, marks rose steadily in all subtests, thus tending to close the gap of four years ago between Models B and D. There remains, however, one skill that serves to differentiate the two groups: oral expression. The difference between the level of oral expression in groups B and D is still quite pronounced. Model A students continue to perform poorly in Basque, despite the slight improvement detected, especially in the simplest tests of oral comprehension.

Finally, Model D yields approximately the same results as before. Since this is a long-running, stable model that teaches all subjects in Basque (except for the subject of Spanish), its results appear to have stabilised as well.

In line with the previous findings, the scores for Spanish in this study are also somewhat higher in all three models, but the difference detected is quite small. It is therefore safe to conclude that the level of Spanish is very similar in the two studies under comparison.

II. Analysis based on the child's first language

The aim of bilingual education is to develop the child's competence in both his first and second language. EIFE 3 has therefore analysed results not only by model but also according to the first language of the children in the sample. On the basis of the data obtained, the following conclusions can be reached:

1. First, as was to be expected, native Basque-speaking students scored higher in Basque than did their Spanish-speaking counterparts in all three models.

2. Of the native Spanish-speaking students, those enrolled in Model D are the ones who come closest to scoring as high as their Basque-speaking counterparts in Basque language.

3. Spanish-speaking students enrolled in the most intensive bilingual programmes (Models B and D) show no impairment of their

mastery of Spanish, since their marks match those of their counterparts enrolled in Model A. This result is constant in all the EIFE studies, and mirrors the findings reported in much research carried out in other regions, especially where the first language is socially dominant.

4. Although the native Basque-speaking children enrolled in Model D are only 7 years old and study entirely in Basque, they have a good mastery of their second language Spanish. It is also true, however, that their marks in Spanish are slightly lower than those of their Spanish-speaking counterparts.

The study thus shows that in a suitable bilingual programme, children are able to learn a second language while at the same time maintaining their first.

III. Influence of the factors

Regarding the influence of each of the factors on the linguistic competence of children enrolled in 2nd year of BGE, our analyses of marks in Spanish show that the results are very similar in all three models. It appears that the factors that best account for the differences in marks obtained by students in Spanish are personal (individual aptitudes). It should also be stressed, however, that the students' general knowledge of Spanish is due to other variables not reflected in this analysis and especially to the geographical and social predominance of the language.

In the case of Basque, the situation is substantially different. The sample includes students at all levels of proficiency in this language, from native-speaker competence to practically no knowledge at all. The study reveals that the major factors determining level of competence are the child's first language and the model of bilingual education in which s/he is enrolled.

If we analyse the most important factors within each model, we find that Model A does not in general ensure a sufficiently high level of competence in Basque. Nevertheless, there are certain factors that would help improve these results, such as the number of classroom hours devoted weekly to Basque or the experience of the teaching staff.

Model B guarantees the development of a basic competence in Basque. However, the variance analyses show that certain methodologies yield better results than others within this model. These methodologies are characterised by the broad exposure to Basque that they afford and their use of Basque as the language for pupil-pupil and pupil-teacher relations.

Finally, within Model D, the most important variables are the student's family language and personal aptitude for Basque.

APPENDIX

THE SAMPLE

TECHNICAL DESCRIPTION

Sample frame: students enrolled in 2nd year of BGE in the Basque Autonomous Community during the academic year 1987-88.

Two-stage sample

Stage 1: unit, the classroom

Stage 2: unit, the student

Size of sample: 400 subjects per model (A, B and D).

Stage 1:

Stratified selection of classrooms, with stratification based on the following variables: province, sociolinguistic zone, type of school and bilingual education model.

The allocation chosen from each stratum is proportional to the number of students contained in each. Classrooms were chosen completely at random, with probability being proportional to size, and without replacement.

Stage 2:

Sample of students. In all cases, 4 pupils were selected per classroom. On a simple random basis.

Theoretical number of individuals in total sample: 1,216
Theoretical number of classrooms: 307

SAMPLE FRAME

1987-88, 2nd year BGE

	PUPILS	CLASSROOMS
TOTAL	30,501	1,161
A	16,890	618
B	6,645	275
D	6,538	250
X	428	18

DESCRIPTION OF SAMPLE

1987-88, 2nd year BGE

	PUPILS SURVEYED	CLASSROOMS SURVEYED
TOTAL	1,196	301
A	397	100
B	395	100
D	404	101
X	0	0

METHODOLOGY

Since it is not feasible to survey the entire student population due to the time and expense that such a study would entail, the alternative is to use a sample that is as representative of the population as possible.

Of the sample methods available, the non-random ones were discarded since the wide margin of freedom enjoyed by the sociologist in these types of sampling procedure is liable to result in a selection process flawed by biases that generally go undetected. Moreover, if the probabilities of selection are not known, it is impossible to estimate the margin of error arising from the sample procedure. Data coming in from a survey can only be used properly if the survey's limitations are known. It is therefore necessary to be able to measure error and to have adequate information concerning possible biases and quality of data.

A probabilistic sampling method has the great advantage of affording means of measuring sampling error and bias, and of establishing time and space comparisons through statements of probability. Errors not attributable to the sample method would be committed under any procedure, and experience shows that these errors tend to be fewer when the sample is well designed.

In the case in hand, the sample is not large in size. In trying to extend it to a large population dispersed over a wide area, serious field problems may arise. If the survey were made by telephone or by mail, it would not matter that the direct random selection of students resulted in a survey covering a wide geographical area. But in this case, there is no alternative but to select the *sample in two stages*, using larger units in the first stage.

Sample stage 1

We chose as our primary or stage-one unit the classroom. Because the aim of the survey was to obtain data on each of the three constituent provinces in addition to data on the Autonomous Community as a whole, it was also necessary to use geographical stratification. Finally, because the type of school, the teaching model and the sociolinguistic zone are all correlative in their effect on language levels, these variables were also used as stratification criteria.

Thus, our four-way stratification yielded a total of 67 strata.

The number of primary units or classrooms was proportional to the number of students in each stratum.

Selection in stage 1 was entirely random and proportional to the number of students.

Sample stage 2

The secondary or final units in the sampling process were the students themselves. That is, in each of the classrooms selected in stage one, a direct random selection of students was made.

The number of secondary units was uniform. Four students were chosen per classroom on a simple random basis.

One of the advantages of this type of sample is that it balances the probabilities of selection in the first and second stages, giving all the secondary units an equal chance of being chosen to form part of the sample.

In the second place, and although the first stage involves cluster sampling, the effect of clustering or of homogeneity within the classroom is small, since only four students are chosen from each classroom in the sample. However, the reliability of the sample is raised considerably by the fact that the classrooms yield great statistical variability correlated with the school and outside environments (teacher, socio-economic environment, etc.).

A deep stratification that is closely correlated with the variables used in the survey has the design effect of multiplying the number of primary units in the sample by three. As far as the effects of sample error are concerned, this sample of 300 classrooms is approximately equivalent to a sample of 900 classrooms distributed entirely at random.

However, these 900 classrooms do not reflect the variability of 900 x 4 = 3600 geographically dispersed students selected at random since a small homogeneity effect exists within each classroom. Nevertheless, it was decided to select 4 students from each so that

despite the classroom-cluster effect, the survey would include the individual variability of the population within each classroom.

Thus, the sample method chosen is well suited to our school population and reflects the random variability of nearly 3,600 students, and requires only 301 sampling points.

EXTRAPOLATION

In this survey, we have used formulas of extrapolation by direct expansion in each stratum. This is justified by the fact that every student within each strata had an equal chance of being included in the survey, since the probabilities of selection in the first and second stages were balanced.

ERROR

Estimation of average proportion

$$\pm d = \pm 1{,}96 \cdot \frac{(1 + \sqrt{m})}{2} \cdot \sqrt{\Sigma_h \frac{(N_h)^2}{N} \cdot \frac{P_h(1 - P_h)}{n_h}}$$

MARGIN OF ERROR FOR 95 % RELIABILITY:

$$P = \Sigma_h \frac{N_h}{N} \cdot P$$

This formula also takes account of the stratification effect and cluster effects as well as the sample and population size of each stratum.

SAMPLE ERROR CALCULATION

Given the estimated proportion of Basque-speaking fathers and mothers (in each particular stratum), the following errors have been calculated with a reliability level of 95 %.

	Estimated proportions (P)		
MODEL	A	B	D
BASQUE-SPEAKING MOTHERS	.041	.15	.64*
BASQUE-SPEAKING FATHERS	.078	.17	.62

* 0.64 equals 64 %

	Error (d)		
MODEL	A	B	D
BASQUE-SPEAKING MOTHERS	.028	.049	.062
BASQUE-SPEAKING FATHERS	.038	.053	.066

INTERPRETATION OF SAMPLE ERROR

If the percentage of Basque-speaking mothers in model D is 64 %, the percentage in the total population would be between 57.8 % and 70.2 %, with 95 % reliability. That is, except in the case of a flawed sample (as happens with one in twenty) for this variable (which can be deduced from the data in the sample, which tells us that 64 % of the children in model D have Basque-speaking mothers), within the sample frame the real percentage will lie somewhere between 57.8 and 70.2.

SAMPLE MUNICIPALITIES

EIFE 3 SAMPLE

Municipality	Type of School	S.L. Zone	A Class-rooms	B Class-rooms	D Class-rooms
ARAIA	ST	1	–	1	–
ELTZIEGO	ST	1	–	1	–
GASTEIZ	IK	1	–	–	1
GASTEIZ	PR	1	1	–	–
GASTEIZ	PR	1	1	–	–
GASTEIZ	PR	1	1	–	–
GASTEIZ	PR	1	1	–	–
GASTEIZ	PR	1	1	–	–
GASTEIZ	PR	1	1	–	–
GASTEIZ	PR	1	1	–	–
GASTEIZ	PR	1	1	–	–
GASTEIZ	PR	1	1	–	–
GASTEIZ	ST	1	–	1	1
GASTEIZ	ST	1	1	–	–
GASTEIZ	ST	1	1	–	–
GASTEIZ	ST	1	–	2	–
GASTEIZ	ST	1	–	2	–
GASTEIZ	ST	1	1	–	–
GASTEIZ	ST	1	1	–	–
GASTEIZ	ST	1	–	1	–
GASTEIZ	ST	1	1	–	–
GASTEIZ	ST	1	1	–	–
GASTEIZ	ST	1	1	–	–
GASTEIZ	ST	1	1	–	–
IBARRA-ARAMAIO	ST	4	–	–	1
LAUDIO	PR	1	1	–	–
LEGUTIO	ST	2	–	1	–
ZUIA	ST	1	1	–	–
ABADIÑO	ST	3	–	1	–
ABANTO-ZIERBANA	ST	1	2	–	–
ARRANKUDIAGA	ST	3	–	–	1
ARRIGORRIAGA	ST	1	–	1	–
ARTEAGA	ST	4	–	–	1
BARAKALDO	PR	1	1	–	–
BARAKALDO	PR	1	1	–	–
BARAKALDO	PR	1	2	–	–
BARAKALDO	PR	1	1	–	–
BARAKALDO	PR	1	1	–	–
BARAKALDO	ST	1	1	–	–
BARAKALDO	ST	1	–	1	–
BASAURI	IK	1	–	–	2
BASAURI	PR	1	1	–	–
BASAURI	ST	1	1	–	–
BASAURI	ST	1	–	2	–
BASAURI	ST	1	2	–	–
BASAURI	ST	1	2	–	–
BERMEO	PR	4	–	–	1
BERMEO	PR	4	–	1	–
BERMEO	ST	4	–	1	1
BILBO	IK	1	–	1	–
BILBO	IK	1	–	–	2
BILBO	IK	1	–	–	2
BILBO	IK	1	–	–	1

ST = state PR = private IK = ikastola S.L. Zone = sociolinguistic zone (see p. 24)

Municipality	Type of School	S.L. Zone	A Class-rooms	B Class-rooms	D Class-rooms
BILBO	IK	1	–	–	1
BILBO	PR	1	2	1	–
BILBO	PR	1	1	–	–
BILBO	PR	1	1	–	–
BILBO	PR	1	–	1	–
BILBO	PR	1	1	–	–
BILBO	PR	1	–	3	–
BILBO	PR	1	1	–	–
BILBO	PR	1	1	–	–
BILBO	PR	1	1	–	–
BILBO	ST	1	1	–	–
BILBO	ST	1	1	–	–
BILBO	ST	1	–	1	–
BILBO	ST	1	2	–	–
BILBO	ST	1	1	–	–
BILBO	ST	1	1	–	1
BILBO	ST	1	1	–	–
BILBO	ST	1	1	–	–
BILBO	ST	1	2	–	–
BILBO	ST	1	1	–	–
BILBO	ST	1	–	1	–
BILBO	ST	1	–	1	–
BILBO	ST	1	1	–	–
DERIO	PR	1	2	–	–
DERIO	ST	1	1	–	–
DURANGO	IK	2	–	–	2
DURANGO	PR	2	–	2	–
DURANGO	PR	2	1	–	–
DURANGO	PR	2	–	1	–
DURANGO	ST	2	1	–	–
DURANGO	ST	2	–	1	–
ELORRIO	IK	3	–	–	1
ELORRIO	PR	3	–	1	–
ERANDIO	PR	1	1	–	–
ERANDIO	ST	1	1	–	–
ERANDIO	ST	1	1	–	–
ERANDIO	ST	1	–	1	–
EREÑO	ST	4	–	–	1
ERMUA	IK	1	–	1	1
ERMUA	ST	1	1	1	–
ETXEBARRI	ST	1	–	1	–
ETXEBARRI	ST	1	–	1	–
GALDAKAO	IK	2	–	1	–
GALDAKAO	ST	2	–	1	–
GALDAKAO	ST	2	–	1	–
GALDAKAO	ST	2	1	–	–
GAUTEGIZ-ARTEAGA	ST	4	–	–	1
GERNIKA-LUMO	IK	3	–	–	1
GERNIKA-LUMO	IK	3	–	–	1
GERNIKA-LUMO	ST	3	–	–	1
GERNIKA-LUMO	ST	3	–	–	1
GERNIKA-LUMO	ST	3	–	–	1
GETXO	IK	1	–	–	1
GETXO	PR	1	1	–	–
GETXO	ST	1	1	1	–

Municipality	Type of School	S.L. Zone	A Class-rooms	B Class-rooms	D Class-rooms
GUENES	PR	1	1	–	–
LEIOA	IK	1	–	–	1
LEIOA	IK	1	–	–	1
LEIOA	PR	1	1	–	2
LEIOA	ST	1	–	1	–
LEIOA	ST	1	1	–	–
LEIOA	ST	1	–	1	–
LEKEITIO	IK	4	–	–	1
LEMOIZ	ST	3	–	1	–
LOIU	IK	3	–	–	3
LOIU	PR	3	1	–	–
LOIU	PR	3	1	–	–
MARKINA-XEMEIN	IK	4	–	–	1
MARKINA-XEMEIN	ST	4	–	–	1
MUNGIA	ST	3	1	1	–
ONDARROA	IK	4	–	–	2
ONDARROA	PR	4	–	1	–
ONDARROA	ST	4	–	1	–
PORTUGALETE	IK	1	–	3	–
PORTUGALETE	ST	1	–	–	1
PORTUGALETE	ST	1	1	–	–
PORTUGALETE	ST	1	1	–	–
SANTURTZI	PR	1	1	–	–
SANTURTZI	PR	1	2	–	–
SANTURTZI	PR	1	2	–	–
SANTURTZI	ST	1	–	1	–
SESTAO	ST	1	–	1	–
SESTAO	ST	1	1	–	–
SOPELA	PR	2	–	–	1
SOPELA	ST	2	–	1	–
SOPUERTA	PR	1	1	–	–
TRAPAGARAN	PR	1	1	–	–
TRAPAGARAN	ST	1	–	1	–
TRAPAGARAN	ST	1	1	–	–
URDUÑA	PR	1	–	1	–
ZALDIBAR	ST	2	–	–	1
ZALLA	PR	1	1	–	–
ZARATAMO	ST	2	–	1	–
ZARATAMO	ST	2	–	–	1
ZORNOTZA	IK	3	–	–	1
ZORNOTZA	IK	3	–	1	–
ZORNOTZA	PR	3	–	1	1
ZORNOTZA	ST	3	–	1	–
ANDOAIN	IK	2	–	–	2
ANDOAIN	PR	2	–	1	–
ANDOAIN	ST	2	–	1	–
ANDOAIN	ST	2	–	1	–
ANTZUOLA	ST	3	–	1	–
ARRASATE	IK	2	–	1	–
ARRASATE	IK	2	–	2	2
ARRASATE	PR	2	1	–	–
ARRASATE	ST	2	–	1	–
ASTIGARRAGA	PR	4	1	–	–
ATAUN	ST	4	–	–	1
AZKOITIA	IK	4	–	–	1

Municipality	Type of School	S.L. Zone	A Class-rooms	B Class-rooms	D Class-rooms
AZPEITIA	IK	4	–	–	1
AZPEITIA	PR	4	–	1	–
AZPEITIA	PR	4	–	–	1
AZPEITIA	PR	4	–	–	1
BEASAIN	PR	2	–	1	1
BEASAIN	PR	2	–	1	–
BEASAIN	ST	2	–	1	–
BEASAIN	ST	2	–	1	–
BERASTEGI	ST	4	–	–	1
BERGARA	IK	3	–	1	–
BERGARA	IK	3	–	–	1
BERGARA	ST	3	–	1	–
BERGARA	ST	3	–	–	1
BILLABONA	IK	3	–	–	1
DONOSTIA	IK	2	–	–	1
DONOSTIA	IK	2	–	–	1
DONOSTIA	IK	2	–	–	1
DONOSTIA	IK	2	–	–	1
DONOSTIA	IK	2	–	2	–
DONOSTIA	IK	2	–	–	1
DONOSTIA	IK	2	–	–	1
DONOSTIA	IK	2	–	–	2
DONOSTIA	PR	2	–	1	–
DONOSTIA	PR	2	–	1	–
DONOSTIA	PR	2	–	1	–
DONOSTIA	PR	2	–	1	–
DONOSTIA	PR	2	1	–	–
DONOSTIA	PR	2	–	1	–
DONOSTIA	PR	2	–	2	–
DONOSTIA	PR	2	–	1	–
DONOSTIA	ST	2	–	1	–
DONOSTIA	ST	2	–	–	1
EIBAR	IK	2	–	–	1
EIBAR	ST	2	–	1	–
EIBAR	ST	2	–	2	–
ELGOIBAR	IK	3	–	–	2
ERRENTERIA	IK	2	–	–	2
ERRENTERIA	PR	2	1	–	–
ERRENTERIA	PR	2	1	–	–
ERRENTERIA	ST	2	1	–	–
ESKORIATZA	IK	3	–	–	1
GETARIA	ST	4	–	–	1
HERNANI	IK	2	–	–	3
HERNANI	IK	2	–	–	2
HERNANI	PR	2	2	–	–
HONDARRIBIA	PR	3	–	1	–
HONDARRIBIA	ST	3	–	–	1
IRUN	PR	2	–	1	–
IRUN	PR	2	1	–	–
IRUN	ST	2	1	–	–
IRUN	ST	2	1	–	–
LASARTE	ST	2	–	1	–
LASARTE	ST	2	2	–	–
LASARTE	ST	2	1	–	–
LAZKAO	IK	3	–	–	1

Municipality	Type of School	S.L. Zone	A Class-rooms	B Class-rooms	D Class-rooms
LAZKAO	ST	3	–	1	–
MUTRIKU	PR	4	–	1	–
OÑATI	IK	4	–	–	3
OÑATI	ST	4	–	1	–
ORDIZIA	IK	3	–	–	2
ORIO	ST	4	–	–	1
PASAIA	IK	2	–	1	1
SORALUZE	ST	3	–	1	–
TOLOSA	IK	3	–	–	2
TOLOSA	PR	3	–	–	1
TOLOSA	PR	3	1	–	–
TOLOSA	ST	3	–	–	1
URNIETA	IK	2	–	–	1
URNIETA	ST	2	–	1	–
URRETXU	IK	2	–	–	1
USURBIL	ST	2	–	1	–
ZARAUTZ	IK	3	–	–	2
ZARAUTZ	PR	3	–	–	1
ZARAUTZ	ST	3	1	1	–
ZESTOA	ST	4	–	–	1
ZUMAIA	IK	3	–	–	1
ZUMAIA	PR	3	–	1	–
ZUMAIA	PR	3	–	1	–
ZUMAIA	ST	3	–	1	–

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